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* STERILITY

By

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INABILITY to initiate the reproductive process is sterility.

According to this definition a woman who has had a miscarriage or an ectopic gestation even though without having had a full-term child is not sterile while some authorities consider a woman sterile only if she has not given birth to a viable child even though she has had miscarriages. A marriage is considered fertile if it initiates a successful pregnancy within two years of regular and reasonably frequent intercourse (two or three times a week) without the use of preventive measures.

Absolute Sterility is where reproduction is impossible temporarily or permanently. Women, in whom the uterus has never developed are absolutely and permanently sterile.

Even after hysterectomy, women have conceived.

Relative Sterility is midway between absolute sterility and absolute fertility, the latter condition being common in animals but not in human beings. In general about 12% of all married couples are sterile, the other 88% have varying degrees of fertility. Both the partners must be in good health. Undetected diabetes, profound anaemia, hyper and hypo-thyroidism, nephritis, active tuberculosis and serious heart disease may be enough to make infertility seem a trivial matter for some time to come. Emotional health is attracting more consideration now than it used to and it is even suggested that the will is connected to the pituitary-ovulatory factors in some uneasy women, just as, discouragement and overwork, are reflected in the attitude of the spermatozoon

Nine conditions as requisites of absolute fertility are

(1) The testicles must produce normal spermatozoa.

(2) The male genital tract must allow the free passage of spermatozoa from the testicles to the urethral meatus.

(3) The prostato-vesicular secretions must be favourable to spermatozoa.

* Lecture delivered at the Tiruchy Branch of I. M. A on 30—3—57.

(4) Ejaculated spermatozoa must be safely delivered to and received by the cervix.

(5) The endo-cervical secretions must be favourable to spermatozoa.

(6) The uterus must allow free passage of spermatozoa from the cervix to the ostia uterina of the tubes.

(7) The tubes must allow free ascent of spermatozoa and descent of ova.

(8) The ovario-tubal hiatuses must allow free passage of ova from the ovaries to the ostia abdominalia of the tubes.

(9) The ovaries must produce normal ova. To the above might be added.

(10) The uterine endometrium must be in proper condition to permit embedding and growth of the fertilised ovum.

Therefore the causes of sterility are :

(1) Deficient spermatogenesis (2) obstruction and occlusion of the male genital tract (3) unfavourable prostato-vesicular secretions (4) faults of delivery during coitus and reception (5) unfavourable endo-cervical secretions (6) Uterine blockage (7) Tubal obstruction and occlusion (8) Obstruction of ovario-tubal hiatus (9) Deficient oo genesis (10) Defective endometrium.......

In some cases preventible sterility is due to :

(a) sexual activity at the wrong times of the cycle

(b) preposterous habits like frequent douching to preserve daintiness

(c) misuse of spermicides for lubrication.

(1) Deficient spermatogenesis may be due to–atrophy of the testicles–constitutional disturbances or some endocrine abnormality–history of mumps in husband (bilateral orchitis of mumps sometimes causes sterility)

(2) Gonorrhoea

(3) Prostato-vesicular secretions are frequently unfavourable but this fact is easily overlooked.

(4) Male Malformations–impotence –and premature ejaculation–(short strictures of the vas – epididymal obstructions-inflammatory lesions in the prostate or seminal vesicles) – female malformations and deformities and Dyspareunia.

(5) Endo-cervical secretions – chemically, serologically, bacteriologically or mechanically unfavourable , probably the mechanical type is important in sterility.

There is an alteration in the cervical mucus at the time of presumed ovulation. During the time of ovulation the cervical mucus becomes more glaring and profuse and is occasionally blood tinged. It is at this time that spermatozoa gain access to the uterine cavity most readily.

(6) Uterine blockage due to submucus fibro-myomas, uterine abnormalities or operation on the uterus. Retro-displacements *seldom* interfere with conception.

(7) Tubal obstruction and occlusion-from conditions outside the tube or abnormalities inside the tube–developmental anomalies, inflammation or muscular spasm.

(8) Obstruction of ovario-tubal hiatus -this is more common than is believed. In some human beings just as in many lower animals, the fimbriated ends of the tubes surround the ovaries during the time of ovulation. If this is a universal occurrence, interference with this mechanism may result in sterility.

(9) Deficient oo genesis due to hypoplasia of the entire reproductive

tract. This is due to a disturbance in the constitution during adolescence. In most cases, the condition rectifies itself after marriage Local conditions in the ovary, and many constitutional conditions inflammation, tumours, exposure to radiation, either roentgen or radium over a long period, grossly recognizable pelvic conditions, cervicitis etc.

(10) Defective endometrium due to submucous fibromyomas, destructive manipulation such as improper curettage and inflammation such as tuberculosis, the latter is the cause of sterility in a high percentage of cases nearly 5 to 6% of primary sterility due to endometrial tuberculosis, and endometrial Tuberculosis is almost invariably secondary to tubal tuberculosis and the endometrium is often not involved when tubercular salpingitis exists. Tuberculosis is most likely responsible for many more cases of tubal non-patency than is generally believed. Tuberculosis is responsible for at least 25% of tubal occlusions in primary sterility. Sterility however is due not to one of the above causes but to a summation of several causative factors. About one-third of all the causative factors are on the male side and two-thirds on the female side. However, more than 90% of the male partners to sterile matings and more than 95% of female partners to such matings present evidence of infertility. It is by now a truism that in almost half of infertile matings the disorder wholly or partially lies with the male. Hence only in a few instances can the blame be placed entirely on one partner.

Preliminary Examination of Husband and wife.

History of sterility

Coital frequency and problems

Use of contraception

Previous fertility.

Past illness and operations.

Social history – including alcoholism.

Systemic review

Physical examination (complete)

Chest roentgenogram.

Serology for syphilis; history of gonorrhoea.

Complete blood count and urine analysis.

Basal metabolism.

Examination of Husband

History to be taken privately

Past illnesses–especially mumps, gonorrhoea, syphilis, trauma , operations. Sexual potency and previous fertility.

Special physical examination

Deformities of penis Testes–absence, lack of descent, hypoplasia or atrophy, neoplasm Epididymal thickening Hydrocele or varicocele Prostate—prostatic smear (more than 10 leukocytes per high power field indicates inflammation)

Seminal vesicles—normally not palpable

Semen examination (consensus of normal averages)

Volume–2 to 8 cc. 20 million Sperm-20,000,000 per cc. minimum. Motility —60 per cent within first 2 hours Morphology — 80 per cent normal forms.

Testicular biopsy

Examination of wife

History to be taken privately

Past illnesses—especially gonorrhoea, syphilis, operations, pregnancies and abortions Sexual—menstrual cycle, dyspareunia, douching.

Special physical examination

Vagina—persistent hymen, congenital deformities, inflammation.

Cervix—inflammation, stenosis, neoplasm.

Uterus—size, position, neoplasm.

Adnexa—inflammations, tumours.

Postcoital examination of cervical-mucous—at least 10 motile sperm per high power field (50 sperm optimal)

Basal body temperature.

Instrumentation

Endometrial biopsy or curettage—ovulation; endometritis.

Tubal insufflation.

Hysterosalpingogram.

Culdoscopy.

Hormone assays.

Investigation of the Sterile Couple

(1) Complete history, from both partners.

(2) Complete physical examination of both — Special attention to genital organs, particularly the cervix.

(3) Semen examination.

(4) At least 3 or 4 days should be the period of continence prior to submission of specimen.

The specimen should be obtained by masturbation if possible and delivered into a clean (not necessarily sterile) glass receptacle, great care being taken that none of the ejaculate is lost. If the manual method is impossible or distasteful, the specimen should be obtained by withdrawal after intercourse. A condom specimen should never be accepted.

The specimen should be lightly corked and never refrigerated. Unless the outside temperature is severe, no special temperature precautions are necessary during transport.

If the patient has any febrile illness during the two months prior to the semen examination and if the latter shows defects another specimen should be examined two to three weeks later. Normally two specimens should be examined at intervals of a week at least.

The effect of hyperpyrexia upon spermatogenesis.

Exposure of the testes of the rat, guinea-pig and sheep to temperatures above that of the scrotum results in degeneration of the germinal epithelium and consequent failure of spermatogenesis.

The effects of elevated body temperature on the total sperm counts in men followed closely the results in animals. For nearly 3 weeks after the fever the human sperm count remains at a relatively normal level.

Because the store of mature spermatozoa in the epididymus and ductus deferent not only is not affected by the temperature elevation but is of such magnitude that any injury to the germinal epithelium is not manifested immediately. The ill effects of the fever may last for 2 months. Even mild diseases such as chicken pox might depress spermatogenesis to the point of absolute sterility and the time sequence of the depression and recovery is similar to that found in hyperpyrexia.

Therefore it is important to know about recent illness. If a low sperm count or poor motility is found in the first examination, the examination should be repeated after a month.

The spermatozoa may be alive in a jar and yet may not reach the uterine cavity. The test for determining the above consists in the female partner being examined with a bivalve speculam and after exposing the cervix—a pippette sterilised in boiling water (not in antiseptic solution) is placed in the posterior fornix of the vagina and semen is aspirated into it. Another sterile pippette is placed in the cervical canal and some of the contents drawn up. This is placed immediately on a glass slide, covered with a cover slip and examined under a microscope. If numerous motile spermatozoa are seen the husband is not sterile and the wife's cervical secretions are not inimical to spermatozoa.

If however, no spermatozoa are found in the cervical canal the semen obtained in the posterior fornix should be examined. If this too fails to reveal spermatozoa the fault lies with the husband. If on the other hand dead or no sperm are found in the cervical canal and live ones are seen in the vaginal specimen the fault lies in the wife's vagina or cervix.

If no spermatozoa are found in the cervix or in the vagina but live ones are found in a jar specimen, the husband may nevertheless be to blame. This may sound strange. Therefore it is generally believed that live sperm in a jar are definite proof that the husband is not responsible for the sterility, if a husband has a light urethral stricture no semen will be ejaculated from the penis during an orgasm, because the semen remains behind the stricture. However, the semen will flow out into a jar when the penis becomes flaccid. Therefore sperm may be found in the jar but not in the vagina or cervix, and in such cases they should be advised to leave the penis in the vagina long enough after coitus for it to become flaccid.

In women, the vagina is always acid and the cervix always alkaline. *This idea bears out the above statement. The healthy cervical secretion is most favourable for spermatozoa because sperm will survive at least three times as long in cervical mucus as in their own seminal fluid at comparable temperatures. The acidity of the vagina plays no role in sterility or fertility.*

Within 5 to 10 minutes after emission, cervical insemination of sperm will be found. Therefore the sperm which are ejaculated directly at the cervix during the orgasm are the ones really responsible for fertilisation.

A semen penetration test

A drop of semen and some cervical mucus are placed on a slide so that the surfaces become contiguous when covered by a glass cover slide. The result is positive if columns of spermatozoa can be seen microscopically in the mucus and is negative if the spermatozoa fail to penetrate the mucus.

The mucus is penetrable by sperm for only 12–48 hours and usually between the 10th and 14th day of a 28-day cycle.

Evaluation of the fertilising potential of Semen.

Six facts must be known:

(1) Volume of the ejaculate.

(2) Number of Spermatozoa per c.c. of semen.

(3) Total number of spermatozoa in the ejaculate.

(4) Percentage of motile spermatozoa

(5) Quality (Vigour of progressive motion) of motility and

(6) Percentage of cells showing abnormal morphology.

No. (1) depends in part on the period of continence preceding the obtaining of the specimen. about (2 or 3 days) the

average is about 3·5 cc. (between 2 and 5 cc.) A volume below 2 cc. after 3 or 4 days of continence should be considered low and possibly a factor in the failure of conception. It is not necessary to measure the pH of semen. The pH is physiologic at the time of ejaculation but rapidly becomes alkaline owing to loss of Co2 on exposure to air.

No. (2) The exact number of spermatozoa per c. c. is determined by the simplest method. The diluent used is a saturated solution of soda bicarb and 1% phenol. The w. b. c. pippettes and ordinary Neubauer chamber are used. If numberous spermotozoa are seen in the fresh drop under the high dry lens a 1 : 20 dilution is made by drawing the well mixed semen to the 0·5 mark on the pippette which is then filled to the 11 mark with the bicarbonate phenol solution. After thorough shaking about ½ the mixture is discarded and the remainder used for the count. The mixture is applied to the counting chamber in such a fashion that the chamber is just filled, counting is done as for blood cell counts. 5 blocks of 16 squares or ⅕ of the red blood cell field are used. All the spermatozoa lying within this area and with bodies overlying the lines on two sides of the square are counted. The total number of spermatozoa counted in the five blocks plus 6 ciphers gives the spermatozoa count per cc.

No. (3) The total number of spermatozoa is determined by multiplying the number of spermatozoa per cc. of the ejaculate by the ejaculate volume.

No. (4) Percentage of active spermatoza can be roughly estimated by simply examining a high dry field. It does not require very great skill to find whether 30% or 50% of the cells are inert. If semen is examined within 3 hours after ejaculation and if at least 40% of the cells show a reasonable degree of vigorous forward motion they are fertil e.

In fertile men the average percentage after 3 to 6 days of continence is about 60% though this is likely to be considerably lower after (10 days) continence. A percentage of 80–90 is unusually high.

No. (5) Quality of Motility : The assessment of above is largely a matter of experience and does not require elaborate equipment. This is probably the most important single aspect of the semen examination. Care should be taken as to the conditions under which it is measured.

Motile activity should be assessed only one hour after ejaculation and preferably within 3 hours. The semen is usually coagulated immediately after ejaculation and the spermatozoa are tightly enmeshed in the coagulum. Liquefaction should be complete within 30 minutes in most specimens but some specimens retain a high viscosity for indefinite periods but this viscosity is different from the coagulation and it seldom does act as an impediment to good motile activity.

A single examination of motility within 3 to 4 hours after ejaculation would in most cases suffice and be quite representative of the potential fertility of any particular specimen. Seminal fluid is not a physiologic environment for the spermatozoa beyond a period of 30 minutes. The point to note is, if the spermatozoa exhibit vigorous progressive motion or either sluggish or erratic in their motion. The motility should be determined at room temperature on a drop of semen placed between slide and cover glass.

Grade 4 ... Excellent—aggressive.

" 3 ... Good–progressive.

" 2 ... Fair to poor.

" 1 ... Sluggish with little space gaining activity.

Grossly abnormal spermatozoa can be distinguished in the wet mount at the

time of the motility examination. While abnormal morphology can assume certain forms not readily seen unless a stained smear is examined.

The fixing and staining (Meyer's haematoxylin) is obtained by warming 1 gm. of haematoxylin and 50cc. of 95% alcohol in an oven until dissolved, then mixing in a solution of 50 gm. of NH_3 alum, and 1,000 cc. of distilled water. Let stand 10 days or add 5 cc. of H_2O_2 and let stand 5 days.

For staining make a thin smear of semen and allow it to dry in air then (1) 10% Formalin 1 minute (2) rince in tap water (3) Haematoxylin 1½ to 2 minutes (4) rince in lukewarm tap water. dip twice (5) dry in air (cover glass is not necessary) Examine the cells under an oil-immersion objective. The enumeration of 100 cells should be sufficient to determine the degree of abnormality.

Definition of abnormality : Lot of difference of opinion. The normal form is *(oval)* (normal) 4 types of abnormality are accepted.

1. *Large* (megalo) 2. *small* (tapering) 3. *duplicate* (heads or tails) and 4. *amorphous.* The first three are easily recognised while the last includes all bizarre shapes. (A normal semen specimen should contain at least 60% *oval* forms and preferably 80-90%.)

The sperm count is the chief index in considering potential fertility but equal emphasis should be laid on the percentage of active cells and the quality of motility shown. 60,000,000 (60 millions–6 crores) per cc. is the *minimum,* but men with 80 million or 8 crores per cc. are considered *sub-fertile.* In the count range between one and 20 million are certainly infertile but a fourth of them have been found fertile. Above 20 million per cc. there is no rise in the potential fertility of the male provided the cells show good qualities of motility and morphology. The sperm count whether by cc. or by total, is not the all important factor in male fertility. If any given specimen show a good quality of motility and possess good morphology—a count level of 20 million per cc. should be considered as beginning of true male infertility.

No man should ever be told he cannot have children simply because his sperm count is very low–even under 10 million per cc. There is rising fertility potential with increasing quality of morphology. The latter is related both to the sperm count and to the decrease in motile activity. Even in specimens of high quality the percentage of actively motile sperm does not approach 100. 75% is very good and between 50 and 60 is average. The critical level at which the sharp difference between the fertile and the infertile men becomes apparent is less than 40% active. The time taken to achieve conception decreases with increasing (percentage active cells) because, the chances of fertility increase with rising quality of motility. All primary aspects of semen quality – *count, motility* and *morphology* are important.

Semen quality is poor as long as one quality is poor; it is adequate when there are no poor qualities and good when all three are good. The most important single factor is quality of motility. Good quality of motility is a most important compensatory factor if other factors in semen quality are present.

Summarising the lowest standards which should be accepted are :

1. A volume of 2 cc.
2. A sperm count of 20 million per cc. or more.
3. At least 40% of active cells.
4. A quality of motility above grade 2
5. At least 60% normal forms.

Another factor in the marital relationship in considering sterility is the frequency of intercourse. Once a week is not a rate most conducive. Many infertile couples think such a frequency is normal. Three or four times a week is far more conducive to ease of conception than the lower frequencies. If the spermatozoa are normal in number, morphology and activity – the patency of the fallopian tubes should be verified. (*Rubin test.*) If the tubes are open both husband and wife should have a basal metabolism test. Patients suspected of thyroid dysfunction should have repeated basal metabolic studies and also determinations of serum-precipitable iodine. blood cholesterol content and thyroidal accumulation of 131. The diagnosis of thyroid disturbance either hyper or hypo should not rest entirely on laboratory data but also on total clinical picture presented. Patients with definite evidence of hypothyroidism thyroid therapy is indicated but not for others.

Treatment of Sterility

(1) Nothing can be done in those with hypoplasia of the testicles with absence of spermatogenesis.

(2) Excessive sexual intercourse–moderation should be advised.

(3) Indulge at the time of ovulation atleast 12th to 19th day before her expected menstruation first seven days–sterile & 4 days for variation. Ovuation occurs between the twelfth and the sixteenth day before the onset of the next menstruation regardless of the cycle, allowing 5 days for minor variations in any number of regular cycles. Next 8 days and 4 days of variation, *i.e.*, until next menstruation are sterile.

(4) Inter course three times during the fertile week is advised.

(5) When there is evidence of blockage of the epididymus and normal spermatozoa are present in the globus major or short strictures of the vas, a surgical operation may overcome the obstruction, but in case of epididymal obstruction or congenital absencc of vas there is no hope. Most patients with obstructive oligozoospermia have inflammatory lesions in the prostate or seminal vesicles and prostatic massage and antibiotics improve their fertility.

Where oligo - zoospermia which accounts for 50% or more of male infertility is coupled with thyroid disease control of the thyroid condition may help to restore fertility.

(6) In cases of chronic passive congestion of the prostate and seminal vesicles. local treatment, diet, exercise and avoidance of excessive coitus are good.

(7) Impotence and premature ejaculation have often a psychic basis and the latter should be treated.

Female.

(8) Malformation and deformity of the genital organs Surgical operation may set right. Regid hymen—anatomicalyl constricted vagina—obstructive bands in the vagina.

Dysparcunia may be due to tender Carunculae myrteformis inflammation of the vulva or vagina or Bartholins gland cyst or abscess, urethral caruncle fissure or Kraurosis vulvae.

Thick tenacious cervical plug–removal by suction by a syringe. Many women have become pregnant after cauterisation of the cervix.

Defects of the uterus. Difficult to overcome. Massive doses of estrogenic substance injection brings about a tempo-

rary increase in the size of the uterus but if no ovulation takes place the above is useless.

Tubal blockade. Rubin test should be performed It is transuterine insufflation of air. If the tubes are patent, the gas will escape into the peritoneal cavity detected (1) by ausculation with a stethoscope or (2) by X-ray, which will demonstrate a pneumo-peritoneum especially under the right Diaphragm, also (3) by clinical symptoms such as pain in the shoulders and neck after sitting up or working around.

If both tubes are occluded no gas will escape into the peritoneal cavity and radio-opaque substance should be injected into the uterus for hestero-salpingography to determine site of obstruction in the tubes.

Salpingostomy and tubal implantation for the purpose of overcoming sterility have not been very successful; the results being high number of ectopic pregnancies. So tubal plastic operations are not to be attempted.

In cases of defective oogenesis, little can be done. Genetecists are strongly opposed to the use of Roentgen therapy to overcome amenorrhoea and sterility because they result in monstrosities and deformities. I will summarise the results by the following statement.

10% of sterile women become pregnant after merely a bimanual examination.

15% without any treatment.

15% after a uterine sound is passed beyond the internal os and cervical mucus plug removed.

10% after tubal insufflation.

15% after hormone treatment.

These figures belittle some of the extravagant claims made by the enthusiasts of hormone, Vitamin and thyroid therapy.

A word about ovulation. By this it is meant the formation and discharge of an unfertilised egg from a graafian follicle of the ovary. In many animals including the monkey the exact time of ovulation can be determined with ease but in most women this is not yet the ease. Knowledge of exact day of ovulation is most helpful for many reasons including the optimal day for citius for some infertile couples, a means of preventing conception for some overfertile couples and a guide in artificial insemination.

Some women know when they ovulate. They have pelvic discomfort, varying from mild ache to sharp pain, may have a slight bloody discharge which arises in the uterus. This is called intermenstrual pain but many authorities doubt it. Exact time of ovulation can be determined by some objective ways:—

(1) Presence of live ovum in the tube but this will not give the exact time of ovulation.

(2) Examination of ovaries at laparatomy; a fully mature follicle just about to rupture indicates ovulation is to take place and a recently ruptured follicle or fresh corpus luteum indicates ovulation has just taken place.

(3) Examination of the endometrium—finding of luteal endometrium by biopsy or curettage indicate ovulation has taken place but not the exact day, nor will it indicate that it would take place in subsequent months on the same day.

There are other tests not conclusive of evidence:—

1. Reaction of uterus to pituitary extract.
2. Pregnancy after single coitus unreliable data.

3. Hormone studies of blood and urine.
4. Farris Test – At ovulation time cervical mucus secretion when spread and dried on a slide crystallises with arborisation. First ½ of menstrualcycle reacts to Pituitary extract but not the latter half.
5. Fern leaf crystallisation—2 cc. of morning urine is injected subcutaneously into immature female white rats killed after 2 hours hyperaemia. About 4 days before ovulation urine contains gonadotropine substance presumably of pituitary origin which produces hyperaemia of ovaries in immature rats.
6. Changes in electrical potential.
7. *Basal body temperature :*

   Lowest temperature rectal or oral during a full menstrual cycle coincides with the day of ovulation, Temperature should be taken at the same time and under the same conditions.
8. *Change in cervical mucus* but most unreliable.

A few hints on Prevention of Sterility in women :

1. The time to prevent is before and during puberty.
2. Sexual knowledge to be imparted early.
3. Outdoor activities – to be encouraged.
4. Proper Diet.
5. Young girls during puberty should not be forced to studyhard, take arduous music lessons, work long hours indoor, should not be exposed to severe physical or mental strain. Should be taught the importance of rest, relaxation and recreation.
6. Regular bowels.
7. Examination of genitals in girls after first menstruation to detect abnormalities.

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PALPABLE LIVER

BY

T. V. SUNDARAM, D.M.S., *Tiruchirapalli.*

THIS subject continually occupies my mind, because, no day passes without coming across some cases of palpable liver. We miss them if we neglect routine examination. While taking a history, few patients deny having had their abdomen systematically palpated. This condition has been missed in a few cases where they had all their symptoms due to a gross enlarged liver. They had been to a doctor only for such symptoms. A "Liver alertness" if I may coin a phrase like that is very essential in general practice as also a habit to go through the patient as a whole. Probably I have rushed in to choose a subject like this instead of even fearing to tread.

I intend dealing with this subject in some type of classification as it occurred to me. There may be a general bird's eye-view with some emphasis on a few common conditions.

1. Physiological limits, and palpable, even though not enlarged.

In some circumstances whether a liver should be labelled palpable due to enlargement may be difficult to assess. There are physiological limits.

In children the liver is a big organ and is 1/16″ to 1/24th of body weight. In adults it is 1/36th of body weight. It is palpable in children upto 3 years of age. In earlier years I was very apprehensive of liver disease in them but in following them nothing untoward was observed to happen. Upto 1 to 1½″ of liver may be palpable till the age of 3 years. An absolutely soft liver not encroaching the gastric resonance is normal.

Coming to adults, we feel this organ when fingers are thrust under the ribs. Reidl's lobe is an entity.

In wasting diseases this organ is palpable. Whether wasting is due to liver disease or liver due to wasting may be a problem. Heavy nutmeg livers may be palpable due to sagging.

In deformities of chest and spine this organ may be palpable. It is again palpable in conditions of right sided pleural effusion or right pneumothorax. When diaphragm assumes position as at inspiration, due to diaphragmatic pleurisy, this organ may be palpable. In truly sub - diaphragmatic space — occupying lesions, liver is palpable. Such conditions should be looked up to arrive at a diagnosis. Occasionally a palpable lump in the right hypochondrium due to a lesion arising from omentum, transverse colon or greater curvature of stomach may simulate a liver. A clinician's concern is only with pathological enlargements.

II. Infantile Liver Disease. This is an all important and common condition in paediatric practice. We must remember that a soft palpable liver upto the age of 3 is normal. The emphasis is on the softness. Some of these children develop a fatty liver due to protein malnutrition and go on to well-established pathological changes due to a placental-borne virus infection or some other dysentery or diarrhoeal episodes. A soft liver assumes gradually firmness. "Nutritional Livers" if I may call them so, do not stand the insult of an enteritis or sometimes, the common upper respiratory catarrh which is sometimes of viral etiology. After such episodes many children are quickly stricken with a rapid enlarged liver of

* Lecture delivered at Namakkal Medical Forum annual meeting in April '58

firm consistency. They develop secondary picture of cirrhosis.

Unless a constant watch is kept on children, here and there, we miss the border line cases when a physiological condition slips on to pathological state.

Protein malnutrition as in "Kwashiorkar syndrome" presents a picture of palpable liver with skin, hair and mental changes, occurring in children below 5 years. Such livers do not become firm as a cricket ball, do not contract. and do not cause the portal hypertension syndrome.

Fatty, smooth, soft livers are reversible. A hard firm liver is of grave prognostic omen. One can predict the course of events in such a case. Alcoholics develop a nutritional liver and some of them progress on to a subsequent cirrhosis.

Every child below 3 years of age should be watched particularly about their palpable liver specially after episodes of dysentery, enteritis and the "common cold".

Lardaceons liver is a palpable entity occurring in cases of prolonged suppuration and discharging sinuses obviously due to protein loss. Chronic suppuration leaves an anorexic patient who falls short of nutrition and goes on to protein deficit. This is a preventible entity with antibiotic control of infection and management of patient as a whole. Chronic tuberculous sinuses too allow radical excision under cover of modern specific chemotherapy.

III. Palpable liver in acute infections and infectious fevers.

In these States the liver is soft and tender. In cases of infective hepatitis after an initial baffling pyrexia, a palpable liver occurs well before appearance of jaundice. Common duct catarrh causes symptoms and signs of an acute infective fever with a palpable liver acholic motions and variable icterus. There is usually sharp and quick resolution of the condition.

Acute appendicular infection and suppuration sometimes set up a portal pyelephlebitis with suppurative cholangitis, leaving a toxic febrile patient with a palpable tender liver. Infectious pathology in the portal vascular bed and subsequent vascular embolism and thrombosis leave a tender palpable liver.

Liver is involved in acute infective picture from a estate of chronic infective state.

I would lay special emphasis on amoebic infection which causes a palpable, tender, liver in very many cases. These patients are prone to give a wide range of symptoms referable to the gastro-intestinal tract. A few give symptoms of 'Duodenal ulcer syndrome". Borborygmus flatulence and fullness of stomach after food, anorexia, loss of taste and symptoms with signs of tenderness at sites of caecum, hepatic flexure, transverse colon splenic flexure and sigmoid are obtained. This picture warrants the exclusion of a palpable liver by a careful examination. "Palpation shyness" and tickling feeling usually make the patients keep the abdomen taut. Gentle, painstaking examination will give valuable findings.

A few cases have had costly investigations without a palpation of right hypochondrium or a motion examination. They had palpable liver and teeming amoeboid E. H. in the motion. Probably more care is often needed in excluding amoebic hepatitis. Several motion examinations and sigmoidoscopic examinations must be done before detecting this pathogen of E. H. in motion. Routine stool examination may be negative and endoscopic examination positive for E.H. and vice versa.

Some of these low grade hepatic cases present pleuro - pulmonary signs and symptoms. Right base presents signs of

consolidation effusion or merely an immobile diaphragm on screening. Pain over angle of Petit, toxaemia, high fever, chills and rigors may take the mind off the liver condition leaving the physician grope in the wide terrain of pyrexia. Focal examination and alertness for such a possibility of amoebic hepatitis alone will take one into the diagnosis. Palpable liver with signs of right basal pathology conforns to a definite pattern of "Hepato pleuro pulmonary syndrome". Subdiaphragmatic lesion spills infection into the pleuro pulmonary compartment.

IV. Lymphomas and Leukaemias. Palpable liver and discrete lymph nodes elsewhere and especially in the neck is a clinical problem. Very often Biopsy of the lymph node is essential for a diagnosis. Hodgkins is missed otherwise. A boy had palpable liver and cervical lymphadenitis the latter clinically, forcing a diagnosis of Koch's lymphadenitis. We were tempted to institute a plaster of paris collar for immobilising neck and thus favouring early resolution of lymphnodes due to complete relaxation of cervical muscles. A few discrete, freely mobile nodes tempted a biopsy. The report was positive for Hodgkins. Thus biopsy clinched diagnosis.

In leukaemias, liver, spleen and lymphadenitis are clinical signs. Haematological examination alone can clinch the diagnosis.

A palpable liver with findings contributory for a diagnosis of amoebic hepatitis should not give us a sense of false security. We diagnosed amoebic hepatitis in a particular case in December 1957. He had all the signs of Leukaemia in Feb. 58. Frequent blood counts and general check up are mandatory in cases of enlarged liver.

V. Livers of parasitic etiology. In malaria of non immune subjects pyrexia and palpable liver alone may be the presenting features. In hydatid liver disease a superficial cyst may present a tense, fluctuant swelling in the right hypochondrium giving the impression of an enlarged liver.

Kala azar is a condition with palpable liver. Clinical course, pyrexial pattern and marrow studies may be necessary for diagnosis. Actinomycosis and Bilharziasis of liver do come in the picture. The former is seldom detectable antemortem and the latter is probably absent in our country.

VI. Specific and other inflammatory condition. Syphilitic livers are very lumpy and irregular with minimal systemic signs and very rare ascitis and jaundice. An inflammatory perihepatitis presents other signs of chronic peritonitis. Tuberculous hepatitis is probably very rare and seldom diagnosed antemortem.

VII. Neoplastic. Primary, secondary and metastatic carcinomata and sarcomata are definite clinical conditions. The nodular, firm liver of primary carcinoma, nodular, umbilicated feel of secondary carcinoma are probably striking with the cachexia of malignancy and intense jaundice.

VIII. Liver in cardiac failure and other cardiac conditions. Bizarre valvular lesions, myocardial degenerative conditions, cor pulmonable secondary hypertensive heart etc. etc. cause a chronic venous congestion with a tense tender liver. In rheumatic carditis liver is soft and palpable.

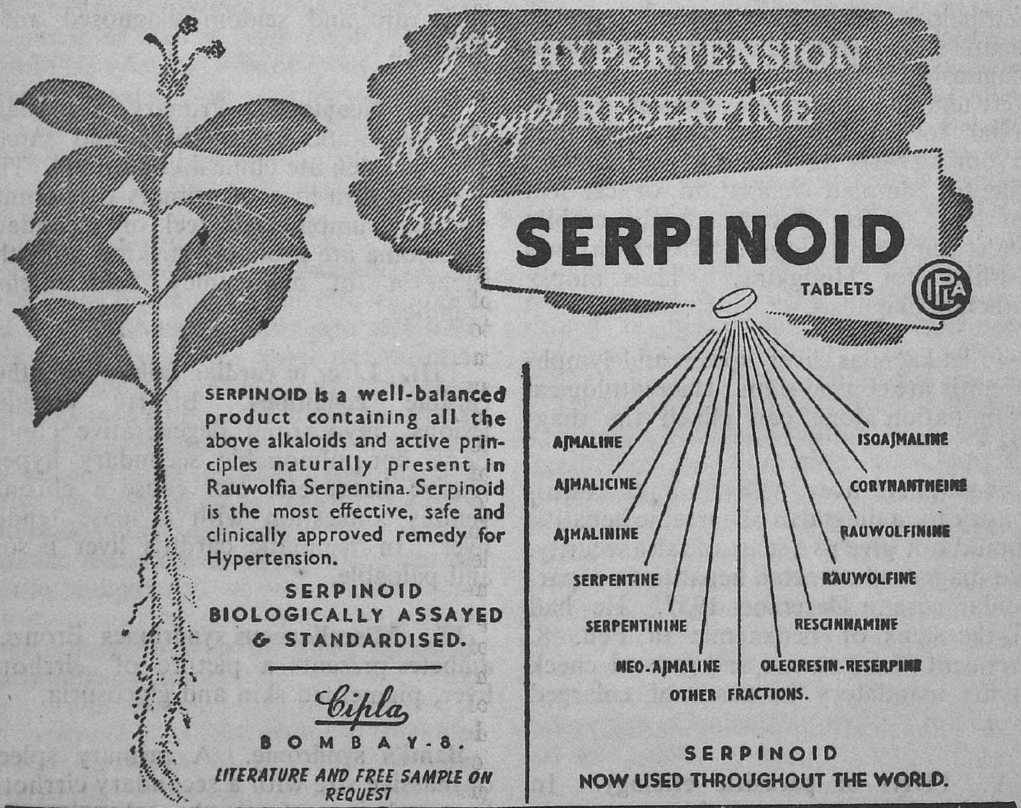
IX. Miscellaneous syndromes. Bronzed diabetes presents a picture of cirrhotic liver, pigmented skin and glycosuria.

Banti's syndrome. A primary spleen of massive size with a secondary cirrhotic liver and signs of oesophageal varices and portal hypertension syndrome are the various aspects of such a picture.

Drugs. Certain drugs are definite aetiologic agents in the causation of massive necrosis with subsequent fibrosis and cirrhosis of the liver.

Diagnostic procedures. Average laboratory findings are essential in a few conditions. Liver function tests and biopsy studies are definite valuable adjuncts for a precise diagnosis. Clinical appraisal is the valuable and probably only available factor to the average general practitioners.

Treatment. Kwashiorkar liver responds to protein of skim milk. Early nutritional liver very often responds to a diet of moderate protein, high carbohydrate and moderate fat with high dose of B. 12 and complex B. Prednisone is useful at precirrhotic level. Intravenous liver extract and male hormone improve general nutrition, diuresis and reversal of albumin globulin ratio to normal pattern. Amoebic hypatitis improves very well with judicious use of chloroquin diodoxyquinoline and emetine. Emetine is very useful in toxaemic pyrexial cases. The average palpable liver of amoebic infection responds very well to chloroquin, diodoxyquinoline combination. Otherwise the treatment is the management of causative and associated pathology. Cobalt bomb exposure seems to be very useful in Hodgkins as seen in a recent case.



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THE CONTRIBUTION OF PHYSICAL EDUCATION TO HEALTH *

by

Dr. K. RAGHAVAN, M.B.,B.S.,
Medical Officer and Lecturer, Alagappa College of Physical Education, Karaikudi.

1. As medical people we are interested in keeping the human body free from diseases. If any one is free from diseases we call him healthy. This is only a negative definition of health. We are trained to set right a diseased body but not to develop to the utmost an average normal body. I am reminded of a joke in this connection : A young doctor who recently took his medical degree put up his sign board to indicate that he had started practice. In trekked his first patient who complained of a bad cold. The doctor was puzzled, pored over his books for a while and said, "You better go and stand under a shower of cold water for ½ hour." "Will that cure my cold Doctor ?", asked the patient. "No", said the doctor, "But that will give you Pneumonia and I know how to treat Pneumonia." In recent years the conception of health has changed. Health is defined as that quality of life that renders the individual fit to live most and to serve best. That is, the body must be developed to the best extent possible and such a developed body must be utilised for rendering humanitarian service for the uplift of the fellow beings. If this definition of health is taken you will appreciate that there will be really very few persons who can be called healthy.

2. Physical Education means Education of the Physical aspects of the body. Knowing the anatomy and physiology of the body a practical training is designed to develop the muscles and secondarily the other vital organs of the body. It is one of the subjects every college student has to study practically in the earlier years of collegiate education in our universities. Since about two decades some importance is given to physical education in our universities and it is actually made compulsory in some classes. The primary object of physical education is to put the voluntary muscles of the body to good active use. The term exercise can be taken as synonymous to this. The object of my lecture is to impress that in recent years exercise has become very necessary to maintain good health and to explain how it is so.

3. In a state of nature the circumstances of existence ensure a sufficiency of exercise. Primitive man was compelled to hunt or otherwise obtain his food by labour in the open air literally by the sweat of his brow. The introduction of machinery has reduced physical exercise to a minimum. Almost daily the advance of improved and more rapid means of locomotion, the ever increasing necessity for speed, make the city dweller less and less inclined to depend upon his natural means of progression. Reduction of the physical side in the life of the majority of people has become an important hygienic factor demanding consideration of replacement by exercise more less deliberately undertaken. We are no longer living in a state of Nature, artificial substitutes become necessary, although the demand for exercise ought really to be satisfied as instinctively as

* Lecture delivered at the Chettinad Branch of I. M. A. on 26—10—57.

the demands imposed by hunger, thirst, cold, fatigue etc. A professor has stated that man is in conflict with nature as he adopted the erect attitude too soon, disposed of hair, took to clothing, remained under cover thus avoiding climatic stimuli which resulted in a deranged Vaso-motor mechanism; changed the diet to fine soft and concentrated one so that the teeth atrophied, postponed marriage imposing severe sexual strain, assembled all kinds of pathogenic bacteria, changed his work from an intermittent one to a continuous exacting and monotonous one and substituted for closed concrete fears of the primitives, intellectual apprehensions and worries of provident life. Therefore some form of physical exercise has become necessary as substitute especially for city dwellers as city life means biological death.

4. What is exercise? A standard dictionary definition is " Exertion of the muscles, limbs and bodily processes regarded with reference to its effect on the subject, especially such exertion as is undertaken with a view to the maintenance and improvement of health." From the first moment of life the tiniest infant, save only the feeblest, takes exercise by stretching, crying and yawning and other elementary activities, to be followed by kicking, creeping, crawling and ultimately assumption of the erect attitude and walking. And so throughout life, except in the case of the completely bed-ridden invalid. Merely to rise from the recumbent posture increases the heart rate from 6 to 12 beat per minute. In a trained athlete the heart is able to supply a lot of blood, the heart beating upto 180 times a minute during violent exercise. During contraction of the muscle some chemical changes take place as explained below.—

1. Adenosine Triphosphate—→Adenylic Acid+Phosphoric Acid (gives energy for contraction.)
2. Phosphoric Acid + Glycogen—→ Fructose Diphosphate.
3. Phosphocreatinine —→ Phosphoric Acid+Creatinine (gives energy for resynthesis of Adenosine Triphosphate.)
4. Fructose Diphosphate —→ Lactic Acid+Phosphoric acid for Resynthesis of Phosphocreatinine.
5. Lactic Acid—4/5 of this resynthesised by oxidation to Glycogen 1/5 is waste. (Adenosine Triphosphate Glycogen and Phosphocreatinine are the fuel substance present in the muscles.)

Waste products like lactic acid and carbondioxide accumulate. For the removal and for completion of the chemical changes large amount of oxygen is necessary called the Oxygen Debt and the blood circulation, heart rate, increase followed by increased pulmonary ventilation, contraction of the splanchnic vessels. Last the kidneys and skin are flushed to throw out the waste products like water, carbonates, urea and creatinine. Regular exercise will give the following benefits: The muscles actually used hypertrophy, have greater sustaining capacity, are able to store more fuel substances, greater number of capillaries open up so that more blood can be supplied and waste products can be removed more easily. Secondarily the heart also hypertrophies. In all trained athletes the heartrate is less than the usual 72 per minute showing greater reserve power of the heart.

5. There is no such thing as the best exercise. The best exercise is the one that is liked best and there can be no universally best exercise any more than a universally anything. So complicated is the human body, adapted as it is to such a multitude of requirements that no one exercise can employ more than a fraction and a comparatively small fraction of the muscles of the body. Further more there is no need for any exercise that could at one time employ the entire musculature. So long as a

reasonable representation is assured no further recommendation is required. Exercise must have its recreative side. It is very important to consider the psychological aspect. The play instinct is present in the child and exercise must be designed to give as much fun as possible to it. In the adolescents violent competitive games are most suited as these give them an outlet for their aggressive, pent up energies. In the adults exercise should give a lot of recreation. We must also bear in mind that upto the age of 12 years there need not be any difference in the exercises given to boys and girls. After that exercises for girls should be different due to the difference in body structure and constitution. Feminine accomplishments require grace, lightness and rhythmicity and these attributes should characterise the exercises towards which there is an instructive propulsion. Dancing, tennis, swimming, croquet are very good for them. These will tend to retain that softness and ductibility which we identify with womanhood's character.

Regarding psychological factor I have to state that a number of people have occupations involving strenuous exercise of the muscles but anything done for a living having no recreative value is worse than useless. One man's pleasure is another man's madness. The city man will be unwilling to go to his office a mile away by walk but he has energy to walk several miles following a little white ball when playing golf.

I must tell a word about the effects of yogasanas. Performed as such it is just gymnastics with absolutely no recreation. These Asanas will defeat the purpose unless perfomed with a spiritual outlook which is the most important factor. The belief in the Omnipotent, the aim to be in unison with Nature has such powers of rejuvenating which cannot be assessed by Science. For Adults for having a healthy life such spiritual outlook and yogasanas are quite necessary.

I must conclude here after just considering how far exercise can reduce body weight. In obese patients I do not think exercise will give benefit. 1 gm. of fat gives 9·3 cals. of heat. So to get rid of 1 gm. of fat an exercise that gives so much heat must be designed. It requires a very strenuous exercise affecting the heart to melt that fat. Obese patients therefore have to be content by control of diet only. The other diseases where exercises are beneficial are diabetes, neurasthenia, dyspepsia etc.

I am thankful to you for giving me a patient hearing. I have tried my best to give an idea about the place of physical education in maintaining health. I hope you will forgive any shortcoming.

References :

1. Adolphe Abrahams'—The Human Machine.
2. J. F. Williams—'Personal Hygiene applied'.

EVALUATION OF THE TREATMENT OF HERPESZOSTER.

BY

T. V. VENKATESAN, M.B.,B.S., F.C.C.P. (U.S.A.), F.D.S. (Lond.), *Madurai.*

THE management of Herpeszoster has been a long problem. Various methods are in Vogue and a review is helpful to the medical practitioner.

1. Autohaemotherapy :—Drawing 3 cc. to 5 cc of blood and giving intra-gluteally once in two days for 7 to 10 injections.

2. Antibiotics :—Various broad spectrum antibiotics are given by mouth in doses of 250 mgm 4 times daily for about 7 to 10 days.

3. Thiamine chloride 100 mgm and Cyanocobalamin 1000 mcg. (B 12) are given parenterally each about six injections.

4. Posterior Pituilary injections :—1 cc. S. C. every 3 day for 3 injections.

5. X-ray therapy over involved spinal roots.

6. Analgesics and antipruritics are given orally for pain and pruritis respectively.

7. Corticosteroids :— Cortisone 300 mgm. 1st day, 200 mgm 2nd day and 100 mgm daily 3 days.

   Prednisolone 30 tablets in doses of one tablet thrice daily for 5 days, One tablet twice daily for 5 days and one tablet once daily for 5 days.

8. Protamide (a processed and denatured proteolytic enzyme) 1 cc. I.M. every 3rd day for 6 injections.

9. Combinations therapy :
   (a) Vitamin B 12, 1000 mcg daily I. M. combined with A. C. T. H. (Acthorgel).
   (b) Vitamin B 12, 1000 mcg daily for 10 days along with prednisolone orally for 30 tablets.

Review of Cases treated.

Total number of cases treated 21 during the year 1945–57.

Treatment followed.	Number of cases treated	Results
Autohaemotherapy	5	Three cases show relief
Posterior pituitary extract	6	Three cases : the skin lesions show regression. No relief from postherpetic neuralgia in all.
Analgesics and antipyretics	2	Temporary relief.
Antibiotics and Achromycin caps	4	Relief from skin manifestations : No relief from postherpetic Neuralgia.
Cyanacobalamin (B 12) 1000 mcg. Injections : and Prednisolone 30 tablets	4	All patients had relief from skin lesions and postherpetic Neuralgia.

The other measures outlined above have not been tried.

Locally the skin lesions may be painted with 1% aqueous Methylene blue.

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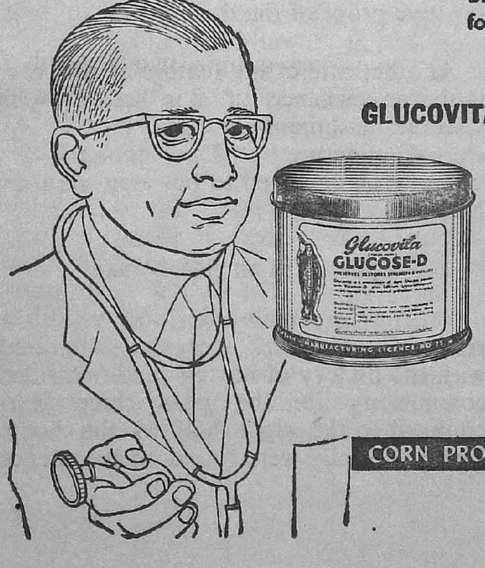

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CASE NOTES

Post-Kala-Azar Dermal Leishmanoid.

During an inspection parade in the Central Jail, Vellore, patient P. was noticed to have pigmented nodules on his face. The nodules were prominent enough to arrest attention and to suggest lepromatous leprosy as a diagnosis.

On questioning, the patient gave a history of a month-long fever eleven years ago treated by a dozen intravenous injections given on alternative days. These nodules were present for the past eight months. Having contracted a primary chancre at this time the patient attributed the nodules to syphilis and underwent a course of Penicillin in oil injections without any regression of the nodules.

On examination, the patient was a well-nourished individual of about twenty-five years. Heart and lungs were normal and there was no splenic or hepatic enlargement. There was no regional glandular enlargement.

The nodules were spread over the forehead, nose, eyelids, cheek, chins and a few were seen on the earlobes. The nodules were mostly discrete, but a few were coalesced together here and there.

A section taken from a nodule smeared on to a glass side and stained by Leishman's stain revealed Leishman Donovan bodies. A sternal puncture was done and marrow smears also revealed Leishman Donovan bodies. The Gel and Chopra tests were negative.

A diagnosis of Post-Kala-Azar Dermal Leishmanoid was arrived at. The patient was treated with Stibatin and Iodides by mouth. 50 c. c. of Stibatin was given. When last seen 2½ months after treatment, the nodules were reduced much in size and numbers.

Discussion :

Post-Kala-Azar dermal leishmanoid is not a common condition. This is a complication of visceral leishmaniasis after full treatment with antimony as we know now. This was first described by that doyen of Tropical medicine, U. N. Brahmachari of Calcutta (of Urea Stibamine fame). Napier and Sen Gupta were able to elicit history of Kala Azar in 82·5 per cent of their dermal leishmanoid cases. The usual time interval between Kala Azar and the dermal manifestation is one to two years.

It is of note in this individual that a lapse of eleven years has taken place for the manifestation of dermal lesions after Kala Azar.

The importance of Skin biopsy and smears is also brought out in this case The appearance of the nodules and the shiny skin may lead one to the mistaken diagnosis of lepromatous leprosy or of cutaneous syphilides. The demonstration of L. D. bodies in skin biopsy smears is positive proof of the disease.

Another interesting feature of this case is the co-existence of skin lesions with visceral leishmaniasis (as proved by sternal puncture.) This though not unknown is reported to be very rare by Napier.

Epilepsy in an elderly man

Patient M., male aged 60 years, a retired Government officer was admitted with the history of having had one-sided convulsions for the past three years confined to the right half of the body. The fits usually were found to commence

from the right hand and slowly travel up and result in generalised convulsions. The onset of the fits had no time relationship to any incident like taking meals, going to bed, getting up from bed or any physical exercise. The patient was keeping normal health previous to these convulsions and there was no history of venereal disease in him or in his wife. He was a vegetarian by habit.

On examination, he was a well-built individual without any anaemia and with a normal blood pressure. The cardiovascular and nervous systems revealed no abnormality. The fundus showed only minimal changes. In the X-Ray of the skull, there was no evidence of any tumour and the sella tursica was normal. The W. R. and Kahn reactions were negative. On lumbar puncture, the fluid was slightly under tension without any cells or xanthochromia. The pathological and biochemical readings were normal. The stools did not reveal any ova or cysts. Electro-encephalogram was not done.

Discussion:

The discussion entered into epilepsy in general and electro-encephalography in particular. Fits starting in elderly individuals could be safely said not to be due to idiopathic epilepsy. Idiopathic epilepsy is one which occurs in childhood and youth and it is very rare for it to manifest after 30 years. Fits occurring in elderly persons could be parasitic (cysticercosis cellulosae, histoplasma, toxoplasmosis), luetic in origin (general paralysis of the insane), cerebral arteriosclerosis (pre-senile dementias and Jacob–crudz feldt's syndrome), tumours or space–occupying lesions of the brain (neoplasms or tuberculomas) etc. In the case under review, the aetiology could not be definitely made out. Cerebral angiography would have been of use in this case, not only to show any abnormality of the vascular supply, but any space–occupying lesion near the surface would have malformed the pattern of the vessels. The discussion then went on to the relative value of Electro-encephalography in case of epilepsy.

Electro-Encephalography, as is known now, shows two or three types of rhythms, the usual 10 per second alpha rhythm and the slower delta rhythms which are often found near the vicinity of the tumour or damage of the brain. We may also find phase-reversal of the waves near a space-occupying lesion. Failure of E. C. G. to help in diagnosis is noticed often in deep-lying lesions like cerebellar and pituitary tumours. But of late it has been noticed that a kind of waves called the theta waves (7 per second) arises from the hypothalamic area and is of diagnostic value. Thus E. C. G. is of great value in locating intracranial space-occupying lesions with minimal discomfort and Electro-corticogram is of use after opening of the calvarium. Traumatic epilepsy definitely shows changes in the E. C. G.

On the other hand, in idiopathic epilepsy the value of E. C. G. is not only in diagnosis but also in the prognosis and treatment. The grand mal pattern is well known to be a cresendo run of fast spikes and the petit mal pattern of wave and spike rhythms, symmetrical and synchronous. In psychomotor epilepsy, we see a flat top, 4 per second waves. Clinically E. C. G. shows abnormality in 75 per cent of epileptics and the younger they are, the higher this ratio becomes. Dysrhythmia is also noticed in the near family relations of epileptics in a far higher percentage than normal subjects. Masked epilepsy as in aggressive psychopaths shows a high proportion of dysrhythmia Thus the value of E. C. G. is first in elucidation of obscure attacks, to localise a Jacksonian fit as a brain tumour or a space–occupying lesion, for establishing a family history in epileptics and finally in the choice in control and treatment.

INDIAN MEDICAL ASSOCIATION, MADRAS STATE BRANCH.

Minutes of the Annual Meeting of the Council of the Madras State Branch of the Indian Medical Association held at the President Lecture Hall, Gopal Bagh, Avanashi Road, Coimbatore, on Saturday the 23rd November, 1957 at 5–30 p. m.

48 MEMBERS WERE PRESENT : DR. M. SANTOSHAM PRESIDED,

17 members have sent messages expressing their inability to attend the Annual Meeting of the State Council.

President's Introductory Remarks : The President, Dr. M. Santosham, calling the meeting to order, said that at the outset he wished to tender his grateful thanks to all the members of the Council and that of the Madras State Branch, I. M. A. for having reposed confidence in him and elected him to the office of the President of the State Branch.

Resolution condoling the death of Dr. K. R. Ramaswami of Tirunelveli Junction and Dr. S.N. Rangachari of Kodaganallur, Tirunelveli Dt., and of Dr. K. Rajam, L. M. P. of Salem, was moved from the Chair and passed unanimously.

The minutes of the previous Council meeting held at Chingleput on 21st Sept. 1957 were adopted.

Internships & Residencies for 1958 in USA / Canada: The Hony. Secretary, informed the House that a communication has been received from the Central office on 15—11—1957 that 3 out of the applicants, namely, Dr. V. Krishnan, (Madras City Branch), Dr. P. F. Mohammad Yusuf (Salem Branch) and Dr. T. S. Subramanyan (S. Kanara Branch) have been called for final interview at Delhi, and that in all probability they will be selected for internship, and that Dr. V. N. Samuel, M.B., B.S., (Coimbatore Branch) whose name was recommended for re-consideration has also been provided with an internship recently.

Proposed amendments to the Madras Manufactured Drugs Rules and the Dangerous Drugs Act.

RESOLUTION

" This Conference is of the view that the proposed amendment to rule No. 25 Drugs Rules published in the Gazette Notification of September, 1957, is unnecessary as it will throw needless additional work on the already overworked medical practitioners and will further involve needless inspections by Govt. Officers ; and if any such safeguard is required under the Drugs Rules, the Indian Medical Association and the Madras Medical Council may be asked to suggest suitable measures ".

Vote of Thanks :

RESOLUTIONS.

" This Council of the Madras State-Branch of the Indian Medical Association places on record its high appreciation and greatful thanks for the help, co-operation and guidance given by the retiring Vice-Presidents of the Madras State Branch I. M. A. during their tenure of office in the past two years and desires that they would continue to make available to the State Branch the benefit of their mature experience in future also. "

" This Council expresses its sincere thanks to the Coimbatore Branch of the Indian Medical Association for the excellent arrangements made for the successful conduct of the meeting of the State Council of the Madras State Branch, I. M. A. This Council further places on record its great appreciation of the efforts of the Coimbatore Branch, I. M. A. in having organised the 12th Madras State Medical Conference, 1957, and conducted the same in a most successful manner and expresses its sincere thanks for the fine arrangements made for the boarding and lodging of the delegates and visitors to the Conference inclusive of the State Council."

The meeting terminated at 8 P. M.

M. Santosham, *President.*

C. Arumugam, *Hony. Secretary.*

COIMBATORE BRANCH

A meeting was held on Sunday the 2nd February 1958 at Tirumoorthi Hills, Udamalpet. First members assembled at Amaravathi Project between 12 and 1 P.M. and had a sumptuous Dinner which was very well arranged by Dr. C. S. Srinivasan LMP., LPH., Health Officer of the Amaravathi Project with the help of Dr. K. Sriramamoorthy and his collegue Dr. T. V. Tirumoorthy. Then the members visited the Dam site and enjoyed the hot sun and left for Tirumoorthy Hills by 2-30 p. m. and reached there at 3-30 p.m. There the members enjoyed the picnic place in their own ways. Some members climbed to the hills and enjoyed a fine bath at Panchalingam falls There-after members all assembled by the side of the riverlet where Dr. Sriramamoorthy with the help of Dr. Tirumoorthy and Dr. C. S. Srinivasan arranged a buffet Tea which was enjoyed by every member. There all the members looked young, older becoming younger and younger becoming youngest.

Dr. D. Sundareswaran, M.B.B.S., L.O , Vice-President presided and Dr. C. H. Venkateswaran M.B.B.S., enlightened the audience with his past experiences in Medico-Legal cases which was an apt subject for that occasion. Then the Hony. Secretary Dr. S. G. Rajarathnam, M B.B.S., thanked the members and the hosts of the day Dr. K. Sriramamoorthy, Dr. T. V. Tirumoorthy and Dr. C. S. Srinivasan, Health Officer, Amaravathi Project. The members dispersed by 6-30 p.m.

* * *

A meeting of the Association was held on Sunday the 23rd February 1958 in the Association premises. In the absence of the President and Vice-President, Dr. A. G. Leelakrishnan, MBBS., Vice-President of the Madras State Branch of IMA took the Chair.

Moved by Dr. S. G. Rajarathnam, MBBS, and seconded by Dr. G. T. Gopalakrishna Naidu, LMP., LPH, the following resolution was passed unanimously :—

"This meeting hereby resolves to request the Municipal Electrical Engineer, the Municipal Commissioner, and the Chairman Municipal Council and the Superintending Engineer of the Pykara Electricity System, Coimbatore, to exempt the Nursing Homes, Dispensaries and Clinics, X-Ray Institutes and Pathology Laboratories from the operation of the electricity current cut which is now in vogue, as it is found by experience that the above institutions find it difficult to manage with the rationing of the electricity energy."

Dr. K. R. Venkatesalu, MBBS., Orthopaedic Specialist (trained at St. Louis University, U.S.A.) gave an interesting lecture on 'Intramedullary Fixation of Fractures.' and wherein he mentioned various types of Intramedullary pins made of vitellium and various types of prosthesis which are made use of in the recent advance treatment.

Then the President in his concluding remarks felt very much for the limited scope for the advanced and trained personnel like Dr. K. R. Venkatesalu, and hope Government would provide him all possible facilities for making use of his practical training and knowledge in this Branch of Surgery of Orthopaedic.

A meeting of the Association was held on Wednesday the 5th March 1958 in the Association premises. Dr. T. V. Sivanandam. MBBS , presided.

Dr A. S. Mannady Nair, MBBS., PH.D., Additional Medical Adviser, India House, London explained the working of the National Health Scheme at England and also the scope for the Indian Doctors abroad is very promising. He emphasised that only through an organised body like Medical Association, we can achieve many benefits from the Government.

A meeting of the Association was held in the Association premises on Saturday, the 17th May 1958.

Nomination of one President and three Vice-Presidents of the I. M. A. for the year 1958—'59 was held.

Dr. K. Ramachandran, M.B., M.S., Honorary Surgeon, Government Erskine Hospital, Madurai, addressed the members on Some Paediatric Surgical Emergencies.

ERODE BRANCH

A meeting of the Association was held in the Local Government Hospital on 7—3—58. Dr. C. R. Thiruvengadam demonstrated many interesting Surgical and Medical Cases.

MADURA BRANCH

The 30th Anniversary of the Madura Medical Association was held on Saturday the 1st March '58, under the Presidentship of Dr. M. Venkatachalam Chetty. In the forenoon there was a symposium on " Investigation and Treatment of Congenital Cyanotic Heart Disease " by Dr. T. S. Chelvakumaran, M.S., and Dr. Reeve H. Betts., M.D. In the afternoon Dr. A. K. Joseph, MD. addressed the members on " Recent advances in Midwifery ". In the evening Dr. D. L. N. Murti Rau, MBBS, MRCP. addressed on "Tranquilizer". Messrs. Atlantis & Company and Eli Lilly screened their films.

MADRAS CITY BRANCH

A General Body Meeting of the Association was held on Friday the 16th May 1958 at the Madras Medical College to nominate President and three Vice-Presidents to the Parent Body for the year '58–59

Dr. V. Kalyanasundaram, M.B.B S.,L.O., delivered a lecture on " Certain Common Neurological Problems of Interest ".

SOUTH ARCOT BRANCH

The monthly meeting of the Association was held on Saturday the 22nd February, 1958 at the R. C. T. High School premises, Chidambaram

Dr. K. S. Sanjeevi, M. D., Professor of Medicine, Madras Medical College and Physician, General Hospital (on leave) gave a talk on " The Practice of Medicine ".

* * *

The monthly meeting of the Association was held on Saturday the 19th April,1958 in the Government Head Quarters Hospital premises, Cuddalore.

Dr. M. S. Ramakrishnan, M.S., Surgeon, General Hospital, Madras, gave a talk on " Chemotherapy of Non - Pulmonary Tuberculosis.

TANJORE BRANCH

The Twenty first Annual Conference of the Association was held on the 5th October '57 at the Medical School Buildings, R. M. Hospital, Tanjore. Dr. Mohamed Ismail was in the Chair.

Dr. M. D. Anantachari M.D., Principal, Madurai, Medical College spoke on ' The Medical Management of Malignant Hypertension '.

Dr. L. N. Murthy Rao of the All India Institute of Mental Health, Bangalore, then addressed the gathering on ' Recent trends in psychiatric practice '.

The following office - bearers were elected.

President : Dr. Mohamed Ismail.
Vice-President : Dr. T. M. Pillai.
Hony. Secretary & Treasurer :
Dr. S. Narayanan.
Members of the Managing Committee :
Dr. K. Rama Rao ; Dr. (Miss) D, Andal ; Dr. T. R. RamachandraRao. Dr. P. Narayana Rao, Dr. (Miss) Thomas and Dr. L. T. Appadurai.
Members of the State Council :
Dr. T. M. Pillai, Dr. K. Rama Rao, Dr. T. R. Ramachandra Rao and Dr. P. Narayana Rao.
Central Council representative :
Dr. T. M. Pillai.

Dr. C K. P. Menon, M.S., F.R C.S., Superintendent, Erskine Hospital, Madurai then addressed the gathering on ' Recent trends in surgical problems '.

Dr. (Miss) A Manikar, Superintendent, Government Kasturba Gandhi Hospital, Madras spoke on 'Irregular Vaginal bleeding '.

TIRUCHY BRANCH

A meeting of the Association was held on Saturday the 17th May 1958 in the premises of the Medical Association Buildings, Salai Road, Woriur, Tiruchy. Dr. L. S. Ramachandran, MBBS., BSSc., DTM, the President presided.

Dr. M. Natarajan MB., ZDV. (Vein.),FDS. (Lond.), Madras addressed the members on " Use and Abuse of Steroids in Skin Diseases ".

Nomination of one president and three Vice-Presidents for the Central Office for the year 58–59 was held.